

**Listing of Claims**

1. (Currently Amended) A method of managing meta data in a computing device, the method comprising ~~the steps of~~:  
collecting meta data resulting from use of the computing device, the meta data ~~including~~ comprising application data usable in an application and context data for identifying context in which the application data are used;  
determining statistical information associated with the meta data, the statistical information indicating relationships between the meta data;  
storing the meta data and the statistical information in a storage of the computing device; and  
retrieving, from the storage, application data that would be most appropriate for a current context of using the application based on the context data and the statistical information.
2. (Currently Amended) The method of claim 1, further comprising ~~the step of~~:  
applying the retrieved application data in the current context.
3. (Original) The method of claim 1, wherein the context data identify at least one of the following: user roles, uniform resource identifiers (URIs), file names, and/or form names pertaining to the application data.
4. (Currently Amended) The method of claim 1, wherein the application data ~~include~~ comprise at least one of the following: page display setting data, file display setting data, user ID/password combinations, ~~field values for computer forms,~~ user's preference data, bookmarks, and authentication data.
5. (Currently Amended) The method of claim 4, wherein the authentication data ~~include~~ comprise at least one of the following: certificates, or public keys.

6. (Original) The method of claim 1, wherein the meta data are stored in (key, value) pairs.

7. (Original) The method of claim 1, wherein the statistical information indicates frequencies in which particular application data are used together in particular contexts.

8. (Currently Amended) The method of claim 1, wherein the computing device implements a Common Data Security Architecture (CDSA), and ~~the retrieving step~~ retrieving, from the storage, application data that would be most appropriate for a current context of using the application based on the context data and the statistical information is performed by a CDSA add-on module.

9. (Currently Amended) The method of claim 1, wherein the current context ~~includes~~ comprises at least one of the following: opening a web page, filling in a computer form, filling in a password-changing form, providing a certificate, opening a computer file, or processing a computer file, or executing an application program.

10. (Currently Amended) The method of claim 1, further comprising ~~the step of~~:

providing a graphical user interface (GUI) for allowing the user to organize the stored meta data.

11. (Original) The method of claim 10, wherein the GUI displays a graphical tool in a cylindrical configuration for organizing the stored meta data.

12. (Currently Amended) The method of claim 1, wherein ~~the retrieving step~~ retrieving, from the storage, application data that would be most appropriate for a current context of using the application based on the context data and the statistical information is performed using heuristics algorithms.

13. (Currently Amended) The method of claim 1, wherein ~~the retrieving step~~ retrieving, from the storage, application data that would be most appropriate for a current context of using the application based on the context data and the statistical information ~~comprises includes the steps of:~~

formulating search requirements based on the current context of using the application; and  
executing a search based on the search requirements.

14. (Original) The method of claim 13, wherein the search requirements specify weighted properties of the current context of using the application.

15. (Currently Amended) The method of claim 14, further comprising ~~the steps of:~~

applying the retrieved application data in the current context; and  
applying predetermined application data in the current context if no such most appropriate application data are retrieved in the retrieving step.

16. (Currently Amended) The method of claim 1, wherein the current context is for filling in a computer form, and the method comprises ~~the step of:~~

automatically filling in the computer form with said most appropriate application data.

17. (Currently Amended) The method of claim 16, further comprising ~~the steps of:~~

retrieving, from the storage, alternative application data that are related to the current context of filling in the computer form; and  
presenting the alternative application data to a user for the user's consideration.

18. (Currently Amended) The method of claim 16, wherein the computer form is a password-changing form, and the retrieved application data ~~include~~ comprise a user identification and a password.

19. (Currently Amended) The method of claim 18, wherein ~~the filling step~~ automatically filling in the computer form with said most appropriate application data comprises ~~includes the steps:~~

presenting the password in the form in an obfuscated format;  
determining whether it is safe to present the actual password to a user; and  
presenting the actual password in a non-obfuscated format when it is determined to be safe to present the actual password.

20. (Currently Amended) The method of claim 19, wherein ~~the step of~~ determining whether it is safe to present the actual password to a user is performed based on input from the user.

21. (Currently Amended) The method of claim 19, further comprising ~~the step of:~~

replacing the password stored in the storage with a new password if the new password has been accepted by a receiving party.

22. (Currently Amended) A computer program product ~~embodied on computer-readable medium readable by a computing device,~~ for managing meta data in ~~the~~ a computing device, the computer program product comprising ~~computer-executable instructions for~~ a computer readable storage medium having computer readable program code embodied in said medium, said computer-readable program code comprising:

computer readable program code configured to ~~collecting~~ collect meta data resulting from use of the computing device, the meta data ~~including~~ comprising application data usable in an application and context data for identifying context in which the application data are used;

~~determining~~ computer readable program code configured to determine statistical information associated with the meta data, the statistical information indicating relationships between the meta data;

~~storing~~ computer readable program code configured to store the meta data and the statistical information in a storage of the computing device; and

~~retrieving~~ computer readable program code configured to retrieve, from the storage, application data that would be most appropriate for a current context of using the application based on the context data and the statistical information.

23. (Currently Amended) The computer program product of claim 22, further comprising ~~computer executable instructions for:~~

~~applying~~ computer readable program code configured to apply the retrieved application data in the current context.

24. (Original) The computer program product of claim 22, wherein the context data identify at least one of the following: user roles, uniform resource identifiers (URIs), file names, and/or form names pertaining to the application data.

25. (Currently Amended) The computer program product of claim 22, wherein the application data ~~include~~ comprise at least one of the following: page display setting data, file display setting data, user ID/password combinations, ~~field values for computer forms~~, user's preference data, bookmarks, and authentication data.

26. (Currently Amended) The computer program product of claim 25, wherein the authentication data ~~include~~ comprise at least one of the following: certificates, or public keys.

27. (Original) The computer program product of claim 22, wherein the meta data are stored in (key, value) pairs.

28. (Original) The computer program product of claim 22, wherein the statistical information indicates frequencies in which particular application data are used together in particular contexts.

29. (Original) The computer program product of claim 22, wherein the computing device implements a Common Data Security Architecture (CDSA), and the computer program product is implemented as a CDSA add-on module.

30. (Currently Amended) The computer program product of claim 22, further comprising ~~computer executable instructions for:~~

updating computer readable program code configured to update the computing device with meta data resulting from use of the computing device in the current context.

31. (Currently Amended) The computer program product of claim 22, wherein the current context ~~includes~~ comprises at least one of the following: opening a web page, filling in a computer form, filling in a password-changing form, providing a certificate, opening a computer file, processing a computer file, or executing an application program.

32. (Currently Amended) The computer program product of claim 22, further comprising ~~computer executable instructions for:~~

providing computer readable program code configured to provide a graphical user interface (GUI) for allowing the user to organize the stored meta data.

33. (Original) The computer program product of claim 32, wherein the GUI displays a graphical tool in a cylindrical configuration for organizing the stored meta data

34. (Currently Amended) The computer program product of claim 22, wherein the ~~computer executable instructions for retrieving~~ computer readable program

code configured to retrieve the most appropriate meta data is implemented using heuristics algorithms.

35. (Currently Amended) The computer program product of claim 22, wherein the ~~computer executable instructions for retrieving computer readable program code configured to retrieve~~ the most appropriate meta data ~~includes computer executable instructions for comprises:~~

computer readable program code configured to formulate ~~formulating~~ search requirements based on the current context of using the application; and

computer readable program code configured to execute ~~executing~~ a search based on the search requirements.

36. (Original) The computer program product of claim 35, wherein the search requirements specify weighted properties of the current context of using the application.

37. (Currently Amended) The computer program product of claim 36, further comprising ~~computer executable instructions for:~~

computer readable program code configured to apply ~~applying~~ the retrieved application data in the current context; and

computer readable program code configured to apply ~~applying~~ predetermined application data in the current context if no such most appropriate application data are retrieved.

38. (Currently Amended) The computer program product of claim 22, wherein the current context is for filling in a computer form, and the computer program product comprises ~~computer executable instructions for:~~

computer readable program code configured to automatically filling fill in the computer form with said most appropriate application data.

39. (Currently Amended) The computer program product of claim 38, further comprising ~~computer executable instructions for:~~

computer readable program code configured to retrieve, ~~retrieving,~~ from the storage, alternative application data that are related to the current context of filling in the computer form; and

computer readable program code configured to present ~~presenting~~ the alternative application data to a user for the user's consideration.

40. (Currently Amended) The computer program product of claim 38, wherein the computer form is a password-changing form, and the retrieved application data ~~include~~ comprise a user identification and a password.

41. (Currently Amended) The computer program product of claim 40, wherein ~~the computer executable instructions for filling~~ computer readable program code configured to fill in the computer form ~~include computer executable instructions for~~ comprises:

computer readable program code configured to present ~~presenting~~ the password in the form in an obfuscated format;

computer readable program code configured to determine ~~determining~~ whether it is safe to present the actual password to a user; and

computer readable program code configured to present ~~presenting~~ the actual password in a non-obfuscated format when it is determined to be safe to present the actual password.

42. (Original) The computer program product of claim 41, wherein the computer executable instructions for determining whether it is safe to present the actual password is executed based on input from the user.

43. (Currently Amended) The computer program product of claim 41, further comprising ~~computer executable instructions for:~~



computer readable program code configured to replace ~~replacing~~ the password stored in the storage with a new password if the new password has been accepted by a receiving party.

44. (Currently Amended) A system for managing meta data in a secure manner, the system comprising:

a computing device capable of communicating with other communication devices through a communications network, the computing device ~~including~~ comprising,

a plurality of applications selectably executable on the computing device,

a security architecture for selectively providing security-based services to at least one of the plurality of applications,

a data repository module, provided as an add-in module to the security architecture, for collecting meta data resulting from use of the computing device, the meta data ~~including~~ comprising application data usable in an application and context data for identifying context in which the application data are used, determining statistical information associated with the meta data, the statistical information indicating relationships between the meta data, storing the meta data and the statistical information in a storage of the computing device, and retrieving, from the storage, application data that would be most appropriate for a current context of using the application based on the context data and the statistical information.

45. (Currently Amended) The system of claim 44, wherein the data repository module ~~includes~~ comprises:

the storage for storing the meta data;

a first interface for managing a process of storing the meta data in the storage; and

a second interface for retrieving from the storage said most appropriate meta data for the current context.

46. (Original) The system of claim 45, wherein the second interface formulates search requirements based on the current context of using the application, and

executes a search based on the search requirements to retrieve said most appropriate meta data.

47. (Original) The system of claim 46, wherein the search requirements specify weighted properties of the current context of using the application.

48. (Currently Amended) The system of claim 44, wherein the context data ~~include~~ comprise at least one of the following: user roles, uniform resource identifiers (URIs), file names, or form names pertaining to the meta data.

49. (Original) The system of claim 44, wherein the meta data are stored in (key, value) pairs.

50. (Original) The system of claim 44, wherein the security architecture is Common Data Security Architecture (CDSA).

51. (Original) The system of claim 44, wherein the meta data represent at least one of the following: web page settings, file display settings, user ID/password combinations, computer form data, user's preferences, book marks, and authentication data.

52. (Currently Amended) The system of claim 51, wherein the authentication data ~~include~~ comprise at least one of the following: certificates, or public keys.

53. (Currently Amended) The system of claim 44, wherein the current context ~~includes~~ comprises at least one of the following: opening a web page, filling in a computer form, filling in a password-changing form, providing a certificate, opening a computer file, processing a computer file, or executing an application program.

54. (Original) The system of claim 44, further comprising:

a meta data editor for providing a graphical user interface (GUI) that allows the user to organize the stored meta data.

55. (Original) The system of claim 54, wherein the GUI is a graphical tool in a cylindrical configuration.